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AUTHOR Lindle, Jane Clark; Rinehart, James S.
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ABSTRACT

Little information exists as to the efficacy of using the Graduate Record Examination (GRE) as a predictor of success for nontraditional students' graduate studies. Since many students in doctoral education programs are nontraditional matriculants, an investigation of the relationship between GRE scores and student success in one such program is discussed. Records of 74 doctoral students enrolled in educational administration since 1992 were obtained to examine the independent variables. A questionnaire was used to collect faculty perceptions of student scholarship (potential) as the dependent variable. The results indicated three significant predictors of student scholarship potential: grade point average, analytic score on the GRE, and number of courses taken. Not surprisingly, since faculty assign grades, students' grade point averages were significantly correlated with faculty ratings. Furthermore, GRE analytic scores were also significantly correlated with faculty ratings. There was low correlation between students' gender and their potential as rated by faculty. The findings suggest that GRE analytic scores should be given more weight as departments of leadership evaluate student applications. (Contains 25 references.) (RJM)

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# EMERGING ISSUES WITH THE PREDICTIVE APPLICATIONS OF THE GRE IN EDUCATIONAL ADMINISTRATION PROGRAMS: ONE DOCTORAL PROGRAM'S EXPERIENCE

Jane Clark Lindle & James S. Rinehart
University of Kentucky
Department of Administration & Supervision
111 Dickey Hall
Lexington, KY 40506-0017
(606)257-8921
FAX: (606)257-1015

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Jane Clark Lindle & James S. Rinehart
University of Kentucky

## Objectives or Purposes

The question of what criteria might aid screening and admission to Educational Administration graduate programs remains a persistent issue (Miklos, 1988; Mitchell & McSpadden, 1977). Educational Administration students tend to be older than the average graduate student. Increasingly they represent mid-career populations who do not give up their employment for continuing graduate education. Thus they fit the description of so-called "non-traditional" students. That is, these students may carry part- or full-time course loads while continuing a full-time career. The GRE was designed for "traditional" graduate students, those who pursue advanced studies full-time immediately or shortly after attaining their baccalaureates.

Given these conditions, Educational Administration students represent a unique population of graduate students. The demands of their jobs compete for their attention to scholarly work. While course and instructional delivery can be tailored to address such competition, sometimes accommodations are not sufficient to enable success in completing graduate study, especially in finishing the dissertation. Because the competition for these students' time is so intense, the question of how to predict which students will be successful at graduate work under these conditions arises.

The GRE is only one indicator used by most universities to screen applicants. Only a little information exists as to the efficacy of using the GRE as a predictor of success for non-traditional students' graduate studies. This study investigated the relationship between Graduate Record Examination (GRE) scores and student success in a doctoral Educational Administration program.

Perspectives

The literature reveals consistent complaints about Educational Administration programs' voluntary, self-selected, and uncommitted graduate students (AACTE, 1988; Campbell, Fleming, Newell & Bennion, 1987; Cooper & Boyd, 1987; Murphy, 1992; NPBEA, 1989). Several authors attribute these problems to older-than-average adult learners' motivational issues (Campbell, et al., 1987; Farquhar, 1977; Levine, Barth, & Haskins, 1987). Mid-career adults are seen as less tolerant of "academic" exercises and more demanding of instrumental information on job functions (Campbell, et al., 1987; Levine, Barth, & Haskins, 1987; Murphy, 1992).

Another source of concern is a lack of selectivity in admitting students to school leadership programs (Campbell, et al., 1987; Cooper & Boyd, 1987; Murphy, 1992). Educational Administration programs are often seen as the "cash cows" used by colleges to support the otherwise elite graduate programs in other fields (Cooper & Boyd, 1987; Murphy, 1992). The lack of selectivity is also excused by a reported shortage of available candidates for school leadership positions (Campbell, et al., 1987; Murphy, 1992).

As demands for increased accountability enter the arena for higher education, the attrition rate from doctoral programs becomes a concern (Golde, 1995; 1996; Sigafus, 1996). The issue of finding selection criteria that are also predictive of student success is a kind of holy grail for doctoral admissions committees.

The Graduate Record Examination (GRE) is a common admissions requirement for most graduate programs of any type (Boldt, 1986; Nagi, 1975; Nilsson, 1995; Oltman & Hartnett, 1985). Typically, GREs are assumed to predict success in the academic aspects of masters and doctoral programs (Mitchell & McSpadden, 1977; Nilsson, 1995). But there are limitations on the extent to which any predictor is accurate over extended periods of time, and there are detractors who suggest that the GRE is not without flaws.

Like other standardized tests, the GRE has been attacked for its potentially discriminatory bias against women and minorities (Gehshan, et al., 1988; Mitchell & McSpadden, 1977; Rodriguez, 1996). Due to these complaints, the GRE has undergone numerous revisions and renorming. Despite these revisions, the predictive pertinence of GREs to completion of doctoral study remains an issue.

Emerging research suggests that GREs may not be a particularly good predictor of finishing a doctorate in any field (Golde, 1996). Women and first generation college graduates have a higher attrition rate despite good GRE scores and grades. Golde (1996) studied doctoral students who exited programs without their degrees in biology, English, geology, and history. She found several reasons these students decided to withdraw, including: false expectations, unsatisfactory relationships, and bleak career prospects (Golde, 1996; *School of Education News,* 1997).

In a study quite germane to this one, Sigafus (1996) found that non-traditional doctoral students' persistence in completing their doctoral requirements was affected by proximity to faculty and advisors. Sigafus studied doctoral students engaged in a distance learning program in Educational Administration. All of the students continued their full-time employment while pursuing their course work and their dissertations. Sigafus concluded that although these students were quite accomplished in the course work and examination phases of the program, they began to lose momentum when the learning modality shifted to the independent research and writing required for dissertations. Students that did complete their dissertations took longer than those in on-campus programs. Attrition appeared to be higher during the final stages of the degree process than during course work (Sigafus, 1996).

The current study derived from one Educational Administration faculty's debate on the wisdom of applying GRE standards to non-traditional doctoral students. Not unlike other graduate programs, this department has not weighted GREs as a primary selection tool because of the caveats of standardized testing on unique populations (Oltman, 1984). Generally, the range of scores for GREs among this department's students are from less than 250 to 800 in each of the subsections. Given this large span, the faculty worried whether minority and women candidates might be unfairly judged by use of GRE scores. Furthermore, the faculty were well aware that for almost 30 years any selection instrument should have an established validity (Mitchell & McSpadden, 1977). The GRE had not been investigated with this departments' student population.

As part of its land grant mission, this faculty serves first generation college graduates in a state notorious for its low literacy rates. Consequently, the faculty was concerned about the

degree to which the GRE would, or could, account for or predict student success due to the special characteristics of their students and potential students.

While the faculty wondered about the predictive relevance of GREs to success in completing dissertation requirements, they were also curious to see if the verbal portion of the GRE might be useful in predicting dissertation writing success. Thus, this project was initiated to learn what predictive value GREs might provide in admitting students to a university's Educational Administration doctoral program.

## Methods, Techniques, or Modes of Inquiry

Because the focus of this study was on the predictive nature of GREs under a given set of conditions, the methods were primarily quantitative techniques embedded in a single case study — an example of Creswell's "dominant-less dominant design" (1994, p. 177). Although the data were gathered from student records, the results of the study are bounded by the context of the department and its students (Stake, 1994). These results have particular application to one university's doctoral program, thus the investigation is not generalizable. However, the techniques are systematic and replicable, and therefore the research is a single case study design (Campbell & Stanley, 1963; Miles & Huberman, 1994; Stake, 1994).

The dominant paradigm is quantitative because the purpose was to establish predictive validity of an instrument, the GRE (Creswell, 1994; Hardy, 1993; Lord & Novick, 1968). A standard regression technique was used.

At the point in which this study was conducted, few students had completed course work and even fewer had finished their dissertations. So the dependent variable could not be the completion of doctoral requirements. The dependent variable was faculty perceptions of students' scholarship (potential).

## Data Sources or Evidence

Records of 74 doctoral students enrolled in Educational Administration since 1992 were obtained to examine the independent variables. A questionnaire collected faculty perceptions of student scholarship (potential) as the dependent variable. These perceptions were obtained using

a Likert scale for faculty to rate students' writing, ability to conceptualize, and scholarship. The scale (code in parentheses) ranged from "weak ability" (1), "below average ability" (2), "average ability" (3), "above average ability" (4), to "outstanding ability" (5). Faculty rated only the students whom they had taught in courses. All the students in the study had completed at least four courses. Each student received an average of faculty ratings for the dependent variable.

The independent variables were grade point average (GPA), GRE Verbal Score, GRE Quantitative Score, GRE Analytic Score, and date of the GRE exam. Gender was considered a moderator variable. Race was not used as a variable because it was under represented in the student population. (Less than 5% of students were non-white.)

## Results

The standard regression technique yielded a significant model ($F=8.54$, $p \leq 0.00$) accounting for 63% of the variance in potential. There were three significant predictors of student scholarship (potential). These significant predictors were grade point average, analytic score on the GRE, and number of courses taken. Grade point average and analytic score were the best predictors (each with $\beta = .55$) of student scholarship (potential) accounting for approximately 41% and 24% of the variance, respectively. Inversely related to the dependent measure was the number of courses taken, however, it only accounted for 1% of the variance.

Not surprisingly since the faculty assigns grades, students' grade point averages were highly and significantly correlated with faculty ratings ($r=.64$, $p \leq .001$). An unexpected finding was that the GRE analytic score was also strongly and significantly correlated with faculty ratings ($r=.49$, $p \leq .001$). Finally, a fortunate finding was the low correlation between students' gender and their potential as rated by the faculty ($r=.01$). These findings will be fully presented in tables accompanied by an explanation for the paper.

## Educational or Scientific Importance of the Study

Pending acceptance of this paper, we will more fully interpret these findings for the conference. Perhaps the most interesting finding is that GRE analytic scores are a significant predictor of the faculty's perception of students' scholarship (potential). Should this finding be

replicated in other doctoral programs, this finding may suggest that the GRE analytic score should be given more weight as departments of leadership decide to accept or reject student applicants.

Another interesting finding is that there is little correlation between faculties' perception of student scholarship and student gender. This should be encouraging for female candidates for the doctorate, at least in this department.

Limitations exist for this study as the data were collected in one Educational Leadership Department with applicants coming from primarily within the state. However, the results may offer interesting insights and invite replication by other departments.

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